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Customer Number

Patent
Case No.: 57254US002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	CLARK, JOHN C.		
Application No.:	09/997082	Group Art Unit:	1771
Filed:	November 28, 2001	Examiner:	Piziali, Andrew T.
Title:	FUEL CELL GAS DIFFUSION LAYER COATING PROCESS AND TREATED ARTICLE		

BRIEF ON APPEAL

Mail Stop: Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR § 1.8(a)]
I hereby certify that this correspondence is being transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (703) 872-9306.

June 28, 2005
Date

Signed by: Phyllis Boettcher

Dear Sir:

This is an appeal from the Office Action mailed on June 15, 2005, finally rejecting claims 10-19.

A Notice of Appeal in this application is transmitted concurrently herewith.

The fee required under 37 CFR § 41.20(b)(2) for filing an appeal brief should be charged to Deposit Account No. 13-3723.

Appellants request the opportunity for a personal appearance before the Board of Appeals to argue the issues of this appeal. The fee for the personal appearance will be timely paid upon receipt of the Examiner's Answer.

REAL PARTY IN INTEREST

The real party in interest is 3M Company (formerly known as Minnesota Mining and Manufacturing Company) of St. Paul, Minnesota and its affiliate 3M Innovative Properties Company of St. Paul, Minnesota.

RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals or interferences.

STATUS OF CLAIMS

Claims 1-19 are pending. Claims 1-9 stand withdrawn. Claims 10-19 stand rejected. The rejection of claims 10-19 is appealed herein.

STATUS OF AMENDMENTS

No amendments have been filed after the final rejection.

CONCISE EXPLANATION OF THE CLAIMED INVENTION

The claims at issue concern a hydrophobic carbon fiber construction made by a method comprising the steps of:

a) immersing a carbon fiber construction in an aqueous dispersion of a highly fluorinated polymer;

b) contacting said dispersion with a counterelectrode; *and*

c) electrophoretically depositing said highly fluorinated polymer on said carbon fiber construction by applying electric current between said carbon fiber construction and said counterelectrode.

The method may comprise an additional step of: d) sintering said highly fluorinated polymer by heating said carbon fiber construction. The resulting hydrophobic carbon fiber construction may be coated with a monolayer of particles of the highly fluorinated polymer.

In addition, the claims at issue concern a hydrophobic carbon fiber construction coated with a monolayer of particles of a highly fluorinated polymer.

This invention is useful in the manufacture of a fuel cell component known as a "gas diffusion layer."

CONCISE STATEMENT OF THE ISSUES PRESENTED FOR REVIEW

First Issue

Claims 10-19 stand rejected under 35 USC § 103(a) as purportedly unpatentable over U.S. Pat. No. 6,803,143 (Zuber) in view of U.S. Pat. No. 3,573,991 (Lenfant) or U.S. Pat. No. 4,897,286 (Kosuda).

Second Issue

Claims 10-16 and 19 stand rejected under 35 USC § 103(a) as purportedly unpatentable over U.S. Pat. No. 3,972,735 (Breault) in view of U.S. Pat. No. 3,573,991 (Lenfant) or U.S. Pat. No. 4,897,286 (Kosuda).

Third Issue

Claims 17 and 18 stand rejected under 35 USC § 103(a) as purportedly unpatentable over U.S. Pat. No. 3,972,735 (Breault) in view of U.S. Pat. No. 3,573,991 (Lenfant) or U.S. Pat. No. 4,897,286 (Kosuda), and further in view of U.S. Pat. No. 6,803,143 (Zuber).

ARGUMENT

This is the second Appeal in this case. The first Appeal was resolved by withdrawal of all grounds of rejection by the Examiner, followed by assertion of the new grounds of rejection appealed herein.

First Issue

Claims 10-19 stand rejected under 35 USC § 103(a) as purportedly unpatentable over U.S. Pat. No. 6,803,143 (Zuber) in view of U.S. Pat. No. 3,573,991 (Lenfant) or U.S. Pat. No. 4,897,286 (Kosuda).

No Prima Facie Case of Obviousness is Presented

It is axiomatic that, in order to establish a prima facie case of obviousness of a claim, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974); In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)("All words in a claim must be considered in judging the patentability of that claim against the prior art.")(cited at MPEP § 2143.03). In the present case, no prima facie case of obviousness has been established because none of the cited references teaches or suggests claim limitations recited in the present claims.

In general, each of claims 10-13 relate to a hydrophobic carbon fiber construction made by a specified process of electrophoretic deposition. The Examiner points to no teaching in any of the cited references of a process which includes step c) recited in the claims: electrophoretically depositing a highly fluorinated polymer from a dispersion onto a carbon fiber construction.

In general, each of claims 12-19 relate to a hydrophobic carbon fiber construction coated with a monolayer of particles of a highly fluorinated polymer. The Examiner points to no teaching in any of the cited references of such a construction coated with a monolayer of particles of a highly fluorinated polymer.

No Prima Facie Case: Claims 10-13

In general, claims 10-13 recite a hydrophobic carbon fiber construction made by specified processes of electrophoretic deposition. Claim 10 recites a hydrophobic carbon fiber construction made according to a method comprising the steps of:

> "a) immersing a carbon fiber construction in an aqueous dispersion of a highly fluorinated polymer;
> b) contacting said dispersion with a counterelectrode; and
> c) electrophoretically depositing said highly fluorinated polymer on said carbon fiber construction by applying electric current between said carbon fiber construction and said counterelectrode."

The Examiner asserts that Zuber teaches "a method of making a hydrophobic carbon fiber construction comprising the step of immersing a carbon fiber construction in an aqueous dispersion of highly fluorinated polymer" (June 15 Office Action at page 2). The Examiner concedes that Zuber "fails to mention electrophoretically depositing the highly fluorinated polymer on the carbon fiber construction." (Id.). This is, of course, a major and critical omission. The steps that Zuber fails to mention include adding a counterelectrode and passing the electrical current through the immersed object and the counterelectrode. Zuber's failure to mention electrophoretic deposition is a major omission in regard to both the process and the product resulting from that process.

The present Specification explains and demonstrates the importance of this omission. Examples 1 and 2C in the present Specification represent a side-by-side comparison of processes performed with the electrophoretic deposition step (Ex. 1) and merely with immersion of the substrate (Ex. 2C (comparative)). Figs. 1 and 2 are electron micrographs of the actual product of Example 1. Figs. 3 and 4 are electron micrographs of the actual product of Example 2C. As noted in the Specification (e.g. at p. 5, ln. 25 et seq.), the fluoropolymer coatings produced according to the method of the present invention are uniquely uniform. In Figs. 1 and 2 it can be seen that the particles of fluoropolymer form a monolayer on the surface of the fibers. In contrast, Figs. 3 and 4 reveal clumped fluoropolymer particles and large uncoated areas on many fibers of the Ex. 2C product.

The Examiner cites Lenfant and Kosuda for a purported teaching of the elements missing from Zuber.

Lenfant is not relevant to the present invention. Lenfant concerns a process of electrostatic projection, wherein a dry powder, supported in a current of gas, is deposited on a

support. (Lenfant at col. 3, lns. 65-75). This reference cannot be connected with a process of electrophoretic deposition a highly fluorinated polymer out of an aqueous dispersion.

Kosuda also is not relevant to the present invention. Kosuda concerns a method of making "a carbon fiber reinforced thermoplastic resin product (prepreg)." (Kosuda at col. 1, lns. 10-21). The composite of Kosuda is said to have improved impact resistance and to be useful in aerospace and other industrial fields. (Id.). Kosuda does not teach or suggest the use of a fluoropolymer, as required in the present claims. Kosuda does not teach or suggest the treatment of a carbon fiber construction, as required in the present claims. It follows that Kosuda has no relevance to a method of making a hydrophobic carbon fiber construction by depositing a highly fluorinated polymer on a carbon fiber construction.

Since none of Zuber, Lenfant or Kosuda teach or suggest step c) present in claims 10-13, no prima facie case of obviousness has been established.

No Prima Facie Case: Claims 12-19

In general, each of claims 12-19 relate to a hydrophobic carbon fiber construction coated with a monolayer of particles of a highly fluorinated polymer. The Examiner points to no express teaching in the cited references of this construction having a monolayer coating. However, the Examiner speculates that "it appears that the hydrophobic carbon fiber construction taught by the prior art inherently possesses a monolayer." (June 15 Office Action at 3). As noted above, none of the cited references teaches the process of the present invention, nor does any combination of the cited references, and therefore the Examiner is speculating as to an inherent property of a process not taught in the prior art. In addition, as noted below, there would be no motivation to combine these references even if that combination did teach the present invention. Furthermore, the Examiner can cite no valid support in the cited references for the speculation that the prior art inherently possesses a monolayer.

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (cited at MPEP § 2112). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat.

App. & Inter. 1990) (emphasis in original)(cited at MPEP § 2112). The Examiner has presented no such basis in fact. To the contrary, as noted above, Examples 1 and 2C in the present Specification plainly and concretely demonstrate that the fluoropolymer coatings according to the present invention are in fact uniquely uniform, and the prior art process does not form a monolayer. (The Examiner is in error in stating that Applicants failed to show that the prior art did not inherently posses a monolayer, first, because the Examiner has made no case adequate to shift the burden of proof, and, second, because the Specification does make that showing, as noted in connection with Examples 1 and 2C.) Undercutting speculation that the allegedly inherent characteristic necessarily flows from the teachings of the prior art, the Examiner gives equal weight to the speculation that the monolayer cannot be found in the prior art. ("In the event that it is shown that a monolayer does not exist . . ." (June 15 Office Action at 3)).

Alternately, the Examiner states, "In the event that it is shown that a monolayer does not exist, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to vary the voltage and/or current applied to vary the amount of polymer deposited, such that a monolayer of particles of highly fluorinated polymer was deposited based on the desired amount of polymer and because discovering an optimum value of a result effective variable involves only routine skill in the art." (Office Action at 3). Yet the Examiner points to no teaching in any of the references that "voltage and/or current applied" is a result effective variable in achieving a monolayer. (The cited passage in Kosuda does not teach that "voltage and/or current applied" is a result effective variable in achieving a monolayer, nor is Kosuda a relevant reference, as noted above.) In fact the Examiner points to no motivation in any of the references to create a monolayer. To the contrary, the passage that the Examiner cites in Zuber teaches a layer thickness of *not less than 5 microns*. (Zuber col. 6, lns 55-61 cited at June 15 Office Action at page 7.) An examination of Figs. 1 and 2, including the scale bars, demonstrates a monolayer according to the present invention that is much less that 5 microns in thickness. In the passage cited by the Examiner, Zuber *strongly teaches away* from the monolayer according to the present invention.

No Motivation to Combine the References Can Be Found

As discussed above, the combination of Zuber with Lenfant or Kosuda does not create a teaching or suggestion of the present invention. Furthermore, there is no motivation to combine these references.

Zuber concerns gas diffusion structures for fuel cells. Lenfant concerns a process of electrostatic projection. Kosuda concerns a method of making "a carbon fiber reinforced thermoplastic resin product (prepreg)." The Examiner writes, "In response to applicant's argument that Lenfant and Kosuda are nonanalogous art, it has been held that a prior art reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned . . . . In this case, Lenfant and Kosuda are at least particularly pertinent to the particular problem with which the applicant was concerned, which is forming a uniform particle layer on a substrate surface." (June 15 Office Action at 6).

In other words: these references motivate the researcher to *combine* these references because they all relate to an invention that is purportedly only *inherent* in their combination. There can be no doubt that this is impermissible hindsight.

Conclusion

Applicants respectfully assert that the rejection of claim 10-19 under 35 USC § 103(a) as purportedly unpatentable over Zuber in view of Lenfant or Kosuda should be reversed.

Second Issue

Claims 10-16 and 19 stand rejected under 35 USC § 103(a) as purportedly unpatentable over U.S. Pat. No. 3,972,735 (Breault) in view of U.S. Pat. No. 3,573,991 (Lenfant) or U.S. Pat. No. 4,897,286 (Kosuda).

The Second Issue has many substantive similarities to the First Issue. In essence, Breault is cited in this rejection for a purported disclosure similar to the purported disclosure of Zuber in the first rejection.

No Prima Facie Case of Obviousness is Presented

It is axiomatic that, in order to establish a prima facie case of obviousness of a claim, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974); In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)("All words in a claim must be considered in judging the patentability of that claim against the prior art.")(cited at MPEP § 2143.03). In the present case, no prima facie case of obviousness has been established because none of the cited references teaches or suggests claim limitations recited in the present claims.

In general, each of claims 10-13 relate to a hydrophobic carbon fiber construction made by a specified process of electrophoretic deposition. The Examiner points to no teaching in any of the cited references of a process which includes step c) recited in the claims: electrophoretically depositing a highly fluorinated polymer from a dispersion onto a carbon fiber construction.

In general, each of claims 12-19 relate to a hydrophobic carbon fiber construction coated with a monolayer of particles of a highly fluorinated polymer. The Examiner points to no teaching in any of the cited references of such a construction coated with a monolayer of particles of a highly fluorinated polymer.

No Prima Facie Case: Claims 10-13

In general, claims 10-13 recite a hydrophobic carbon fiber construction made by specified processes of electrophoretic deposition. Claim 10 recites a hydrophobic carbon fiber construction made according to a method comprising the steps of:

"a) immersing a carbon fiber construction in an aqueous dispersion of a highly fluorinated polymer;
b) contacting said dispersion with a counterelectrode; and
c) electrophoretically depositing said highly fluorinated polymer on said carbon fiber construction by applying electric current between said carbon fiber construction and said counterelectrode."

The Examiner asserts that Breault teaches "a method of making a hydrophobic carbon fiber construction comprising the step of immersing a carbon fiber construction in an aqueous dispersion of highly fluorinated polymer" (June 15 Office Action at page 4). As with Zuber, above, the Examiner concedes that Breault "fails to mention electrophoretically depositing the highly fluorinated polymer on the carbon fiber construction." (Id.). This is, of course, a major and critical omission. The steps that Breault fails to mention include adding a counterelectrode and passing the electrical current through the immersed object and the counterelectrode. Breault's failure to mention electrophoretic deposition is a major omission in regard to both the process and the product resulting from that process.

The present Specification explains and demonstrates the importance of this omission. Examples 1 and 2C in the present Specification represent a side-by-side comparison of processes performed with the electrophoretic deposition step (Ex. 1) and merely with immersion of the substrate (Ex. 2C (comparative)). Figs. 1 and 2 are electron micrographs of the actual product of Example 1. Figs. 3 and 4 are electron micrographs of the actual product of Example 2C. As noted in the Specification (e.g. at p. 5, ln. 25 et seq.), the fluoropolymer coatings produced according to the method of the present invention are uniquely uniform. In Figs. 1 and 2 it can be seen that the particles of fluoropolymer form a monolayer on the surface of the fibers. In contrast, Figs. 3 and 4 reveal clumped fluoropolymer particles and large uncoated areas on many fibers of the Ex. 2C product.

The Examiner cites Lenfant and Kosuda for a purported teaching of the elements missing from Zuber.

Lenfant is not relevant to the present invention. Lenfant concerns a process of electrostatic projection, wherein a dry powder, supported in a current of gas, is deposited on a support. (Lenfant at col. 3, lns. 65-75). This reference cannot be connected with a process of electrophoretic deposition a highly fluorinated polymer out of an aqueous dispersion.

Kosuda also is not relevant to the present invention. Kosuda concerns a method of making "a carbon fiber reinforced thermoplastic resin product (prepreg)." (Kosuda at col. 1, lns. 10-21). The composite of Kosuda is said to have improved impact resistance and to be useful in aerospace and other industrial fields. (Id.). Kosuda does not teach or suggest the use of a fluoropolymer, as required in the present claims. Kosuda does not teach or suggest the treatment of a carbon fiber construction, as required in the present claims. It follows that Kosuda has no relevance to a method of making a hydrophobic carbon fiber construction by depositing a highly fluorinated polymer on a carbon fiber construction.

Since none of Breault, Lenfant or Kosuda teach or suggest step c) present in claims 10-13, no prima facie case of obviousness has been established.

No Prima Facie Case: Claims 12-19

In general, each of claims 12-19 relate to a hydrophobic carbon fiber construction coated with a monolayer of particles of a highly fluorinated polymer. The Examiner points to no express teaching in the cited references of this construction having a monolayer coating. However, the Examiner speculates that "it appears that the hydrophobic carbon fiber construction taught by the prior art inherently possesses a monolayer." (June 15 Office Action at 4-5). As noted above, none of the cited references teaches the process of the present invention, nor does any combination of the cited references, and therefore the Examiner is speculating as to an inherent property of a process not taught in the prior art. In addition, as noted below, there would be no motivation to combine these references even if that combination did teach the present invention. Furthermore, the Examiner can cite no valid support in the cited references for the speculation that the prior art inherently possesses a monolayer.

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (cited at MPEP § 2112). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)(cited at MPEP § 2112). The Examiner has presented no such basis in fact. To the contrary, as noted above, Examples 1 and 2C in the present

Specification plainly and concretely demonstrate that the fluoropolymer coatings according to the present invention are in fact uniquely uniform, and the prior art process does not form a monolayer. (The Examiner is in error in stating that Applicants failed to show that the prior art did not inherently posses a monolayer, first, because the Examiner has made no case adequate to shift the burden of proof, and, second, because the Specification does make that showing, as noted in connection with Examples 1 and 2C.) Undercutting speculation that the allegedly inherent characteristic necessarily flows from the teachings of the prior art, the Examiner gives equal weight to the speculation that the monolayer cannot be found in the prior art. ("In the event that it is shown that a monolayer does not exist . . ." (June 15 Office Action at 5)).

Alternately, the Examiner states, "In the event that it is shown that a monolayer does not exist, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to vary the voltage and/or current applied to vary the amount of polymer deposited, such that a monolayer of particles of highly fluorinated polymer was deposited based on the desired amount of polymer and because discovering an optimum value of a result effective variable involves only routine skill in the art." (Office Action at 5). Yet the Examiner points to no teaching in any of the references that "voltage and/or current applied" is a result effective variable in achieving a monolayer. (The cited passage in Kosuda does not teach that "voltage and/or current applied" is a result effective variable in achieving a monolayer, nor is Kosuda a relevant reference, as noted above.) In fact the Examiner points to no motivation to create a monolayer in any of the three references that are the subject of this rejection: Breault, Lenfant and Kosuda.

No Motivation to Combine the References Can Be Found

As discussed above, the combination of Breault with Lenfant or Kosuda does not create a teaching or suggestion of the present invention. Furthermore, there is no motivation to combine these references.

Breault concerns electrodes for electrochemical cells. Lenfant concerns a process of electrostatic projection. Kosuda concerns a method of making "a carbon fiber reinforced thermoplastic resin product (prepreg)." The Examiner writes, "In response to applicant's argument that Lenfant and Kosuda are nonanalogous art, it has been held that a prior art reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to

the particular problem with which the applicant was concerned . . . . In this case, Lenfant and Kosuda are at least particularly pertinent to the particular problem with which the applicant was concerned, which is forming a uniform particle layer on a substrate surface." (June 15 Office Action at 6).

In other words: these references motivate the researcher to *combine* these references because they all relate to an invention that is purportedly only *inherent* in their combination. There can be no doubt that this is impermissible hindsight.

Conclusion

Applicants respectfully assert that the rejection of claim 10-19 under 35 USC § 103(a) as purportedly unpatentable over Breault in view of Lenfant or Kosuda should be reversed.

Third Issue

Claims 17 and 18 stand rejected under 35 USC § 103(a) as purportedly unpatentable over Breault in view of Lenfant or Kosuda, and further in view of Zuber.

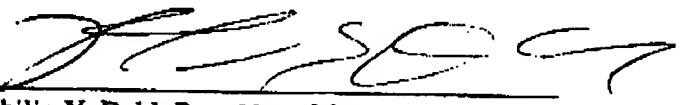
The Third Issue has many substantive similarities to the First and Second Issues and relies on the same references. Applicants respectfully assert that this rejection should be reversed for all the reasons given above with regard to the First and Second Issues.

CONCLUSION

For the foregoing reasons, appellants respectfully submit that the Examiner has erred in rejecting this application. Please reverse the Examiner on all counts.

Respectfully submitted,

June 28, 2005
Date

By: 

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CLAIMS APPENDIX

1. (Withdrawn) A method of making a hydrophobic carbon fiber construction comprising the steps of:

a) immersing a carbon fiber construction in an aqueous dispersion of a highly fluorinated polymer;

b) contacting said dispersion with a counterelectrode; and

c) electrophoretically depositing said highly fluorinated polymer on said carbon fiber construction by applying electric current between said carbon fiber construction and said counterelectrode.

2. (Withdrawn) The method according to claim 1 wherein said highly fluorinated polymer is selected from the group consisting of polytetrafluoroethylene (PTFE), fluorinated ethylene propylene (FEP), perfluoroalkyl acrylates, hexafluoropropylene copolymers, and tetrafluoroethylene/hexafluoropropylene/vinylidene fluoride terpolymers.

3. (Withdrawn) The method according to claim 1 wherein said highly fluorinated polymer is polytetrafluoroethylene (PTFE).

4. (Withdrawn) The method according to claim 1 wherein said carbon fiber construction is a woven carbon fiber construction.

5. (Withdrawn) The method according to claim 1 wherein said carbon fiber construction is a non-woven carbon fiber construction.

6. (Withdrawn) The method according to claim 1 wherein said step of electrophoretically depositing said highly fluorinated polymer has a duration of not more than 30 minutes.

7. (Withdrawn) The method according to claim 1 wherein said step of electrophoretically depositing said highly fluorinated polymer has a duration of not more than 15 minutes.

8. (Withdrawn) The method according to claim 1 wherein said electric current is applied at a voltage of between 6 and 100 volts.

9. (Withdrawn) The method according to claim 1 additionally comprising the step of: d) sintering said highly fluorinated polymer by heating said carbon fiber construction.

10. (Original) The hydrophobic carbon fiber construction made according to the method of claim 1.

11. (Original) The hydrophobic carbon fiber construction made according to the method of claim 9.

12. (Original) The hydrophobic carbon fiber construction according to claim 10 which is coated with a monolayer of particles of a highly fluorinated polymer.

13. (Original) The hydrophobic carbon fiber construction according to claim 11 which is coated with a monolayer of particles of a highly fluorinated polymer.

14. (Original) A hydrophobic carbon fiber construction coated with a monolayer of particles of a highly fluorinated polymer.

15. (Original) The hydrophobic carbon fiber construction according to claim 14 wherein said highly fluorinated polymer is selected from the group consisting of polytetrafluoroethylene (PTFE), fluorinated ethylene propylene (FEP), perfluoroalkyl acrylates, hexafluoropropylene copolymers, and tetrafluoroethylene/hexafluoropropylene/vinylidene fluoride terpolymers.

16. (Original) The hydrophobic carbon fiber construction according to claim 14 wherein said highly fluorinated polymer is polytetrafluoroethylene (PTFE).

17. (Original) The hydrophobic carbon fiber construction according to claim 14 wherein said carbon fiber construction is a woven carbon fiber construction.

18. (Original) The hydrophobic carbon fiber construction according to claim 14 wherein said carbon fiber construction is a non-woven carbon fiber construction.

19. (Original) The hydrophobic carbon fiber construction according to claim 14 wherein said particles of a highly fluorinated polymer are sintered.

EVIDENCE APPENDIX

Appellants rely on Examples 1 and 2C and Figs. 1-4 of the present Specification, as noted in the Argument above.

RELATED PROCEEDINGS APPENDIX

None.